

This following Listing of Claims replaces all prior versions, and listings, of claims in the present application.

Listing of Claims

Claims 1-11: (canceled)

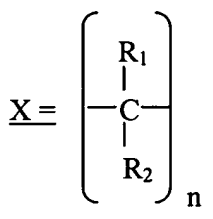
12. (currently amended) A polymer-grafted natural fiber wherein the natural fiber is a natural cellulose fiber and the polymer is a polyether having the general formula (I):



where:

m is between 1 and 200;

R is an aliphatic or aliphatic/aromatic group; and



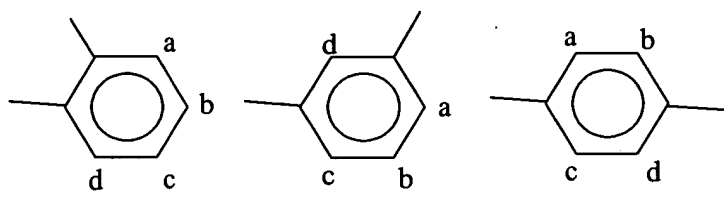
where:

n is between 1 and 20; and

R₁ is the same as or different from R₂ and is either hydrogen or a linear or branched aliphatic group,

or

X = one of the following:



wherein at least one of positions "a", "b", "c" and "d" has attached thereto a substituting group which may be the same as or different from other substituting groups that can be attached at other of the positions "a", "b", "c" and "d", said substituting group or groups being selected from the group consisting of halogens, linear C₁-C₄ alkyl groups and branched C₁-C₄ alkyl groups.

13. (canceled)

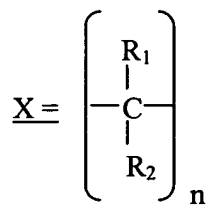
14. (currently amended) A polymer-grafted natural fiber wherein the natural fiber is a natural cellulose fiber and the polymer is a polyether having the general formula (I):



where:

m is between 1 and 200;

R is an aliphatic or aliphatic/aromatic group; and



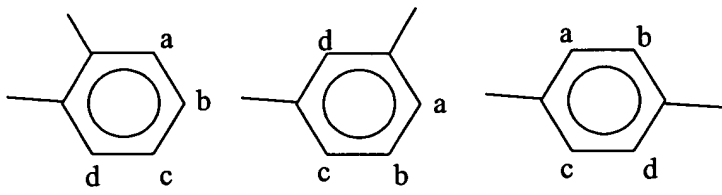
where:

n is between 1 and 20; and

R₁ is the same as or different from R₂ and is either hydrogen or a linear or branched aliphatic group.

or

X = one of the following:



wherein at least one of positions "a", "b", "c" and "d" has attached thereto a substituting group which may be the same as or different from other substituting groups that can be attached at other of the positions "a", "b", "c" and "d", said substituting group or groups being selected from the group consisting of halogens, linear C₁-C₄ alkyl groups and branched C₁-C₄ alkyl groups,

said polymer-grafted natural fiber being obtained using a process comprising the following steps:

converting [[the]] hydroxyl groups on the natural fiber into the corresponding salified alcoholate groups;

grafting on the salified alcoholate groups ~~a functionalized polyether containing said polyether~~ that has been functionalized with a leaving group that favors nucleophilic substitution.

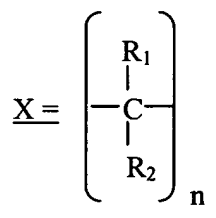
15. (currently amended) A composite material comprising polymer-grafted natural fibers, wherein the natural fibers are natural cellulose fibers and the polymer is a polyether having the general formula (I):



where:

m is between 1 and 200;

R is an aliphatic or aliphatic/aromatic group; and



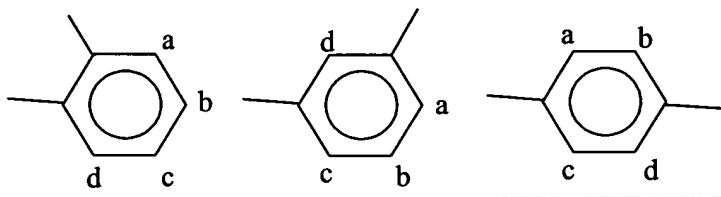
where:

n is between 1 and 20; and

R₁ is the same as or different from R₂ and is either hydrogen or a linear or branched aliphatic group.

or

X = one of the following:



wherein at least one of positions "a", "b", "c" and "d" has attached thereto a substituting group which may be the same as or different from other substituting groups that can be attached at other of the positions "a", "b", "c" and "d", said substituting group or groups being selected from the group consisting of halogens, linear C₁-C₄ alkyl groups and branched C₁-C₄ alkyl groups.

16. (canceled)

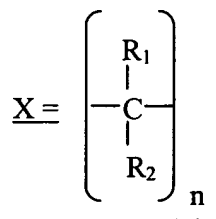
17. (currently amended) A composite material using polymer-grafted natural fibers, wherein the natural fibers are natural cellulose fibers and the polymer is a polyether having the general formula (I):



where:

m is between 1 and 200;

R is an aliphatic or aliphatic/aromatic group; and



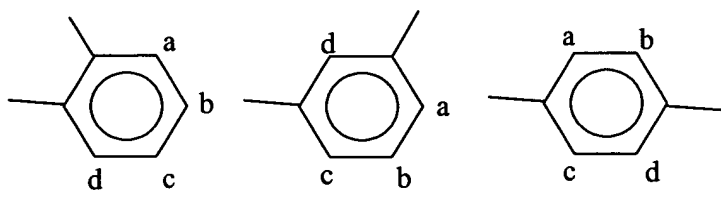
where:

n is between 1 and 20; and

R₁ is the same as or different from R₂ and is either hydrogen or a linear or branched aliphatic group,

or

X = one of the following:



wherein at least one of positions "a", "b", "c" and "d" has attached thereto a substituting group which may be the same as or different from other substituting groups that can be attached at other of the positions "a", "b", "c" and "d", said substituting group or groups being selected from the group consisting of halogens, linear C₁-C₄ alkyl groups and branched C₁-C₄ alkyl groups,

wherein the natural fibers are grafted with polymers the polymer using a process comprising the following steps:

converting [[the]] hydroxyl groups on the natural fiber into the corresponding salified alcoholate groups;

grafting on the salified alcoholate groups a functionalized polyether containing said polyether that has been functionalized with a leaving group that favors nucleophilic substitution.

18. (canceled)

19. (canceled)

20. (new) A polymer-grafted natural fiber according to claim 12, wherein polyether chains that are grafted onto said natural fiber are ready-made chains of predetermined molecular weight.

21. (new) A polymer-grafted natural fiber according to claim 20, wherein the polyether chains grafted onto said natural fiber are of substantially uniform chain length.

22. (new) A polymer-grafted natural fiber according to claim 12, wherein the natural fiber retains its native crystal structure.

23. (new) A polymer-grafted natural fiber according to claim 12, said polyether being a polyoxyalkylene.

24. (new) A composite material according to claim 15, wherein polyether chains that are grafted onto said natural fibers are ready-made chains of predetermined molecular weight.

25. (new) A composite material according to claim 24, wherein the polyether chains grafted onto said natural fibers are of substantially uniform chain length.

26. (new) A composite material according to claim 15, wherein the natural fibers retain their native crystal structure.

27. (new) A composite material according to claim 15, said polyether being a polyoxyalkylene.

28. (new) A polymer-grafted natural fiber according to claim 14, said functionalized polyether being a ready made polyether chain of predetermined molecular weight.

29. (new) A polymer-grafted natural fiber according to claim 14, said functionalized polyether being a polyoxyalkylene having said leaving group attached.

30. (new) A composite material according to claim 17, said functionalized polyether being a ready made polyether chain of predetermined molecular weight.

31. (new) A composite material according to claim 17, said functionalized polyether being a polyoxyalkylene having said leaving group attached.